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CLAIMS

1. A composite aluminium panel comprising two parallel plates and/or sheets secured to the peaks and troughs of a corrugated aluminium stiffener sheet between the parallel plates and/or sheets, wherein the corrugated aluminium stiffener sheet is made from an aluminium alloy rolled sheet of composition (in weight percent):

Mg 1.5 - 6.0

Mn 0.3 - 1.4

Zn 0.4 - 5.0

Fe up to 0.5

Si up to 0.5

Zr up to 0.30

optionally, one or more of Cr 0.05 - 0.30

Ti 0.01 - 0.20

V 0.05 - 0.25

Ag 0.05 - 0.40

Cu up to 0.40

others up to 0.05 each, 0.15 total

Al balance

and having in an H-condition or in the O-condition a ratio of PS/UTS in the range of 0.4 to 0.9 and having good roll formability.

2. A composite aluminium panel according to claim 1, wherein the corrugated aluminium stiffener sheet has a thickness in the range of up to 3.0 mm, and preferably in the range of 0.2 to 1.0 mm.
3. A composite aluminium panel according to claim 1 or 2, wherein the Zn content of the corrugated aluminium stiffener sheet is in the range of 0.4 to 1.2%.
4. A composite aluminium panel according to claim 1 or 2, wherein the Zn content of the corrugated aluminium stiffener sheet is in the range of 3.0 to 4.5%.

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5. A composite aluminium panel according to any one of claims 1 to 3, wherein the corrugated aluminium stiffener sheet is made from an aluminium alloy rolled sheet of composition (in weight percent):

5	Mg	5.0 - 6.0
	Mn	0.6 - 1.2
	Zn	0.4 - 1.5, and preferably 0.4 - 0.9
	Zr	0.05 - 0.25
	Cr	up to 0.3
10	Ti	up to 0.2
	Fe	up to 0.5
	Si	up to 0.5
	Cu	up to 0.4
	Ag	up to 0.4
15	balance Aluminium and inevitable impurities.	

6. A composite aluminium panel in accordance with any one of claims 1 to 5, wherein a cladding is present on at least one side of the surface of the corrugated sheet of the following:

- Sub
A2
- | | | |
|----|-------|--|
| 20 | (i) | it is of a higher purity aluminium alloy than said rolled sheet; |
| | (ii) | the cladding is of the Aluminium Association AA1000 series; |
| | (iii) | the cladding is of the Aluminium Association AA6000 series; |
| | (iv) | the cladding is of the Aluminium Association AA4000 series; |
| | (v) | the cladding is of the Aluminium Association AA7000 series. |

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7. A composite aluminium panel in accordance with any one of claims 1 to 6, wherein the two parallel plates and/or sheets have been secured to the corrugated aluminium stiffener sheet by means of welding, and preferably by means of laser welding.
- 30

8. A composite aluminium panel in accordance with any one of claims 1 to 7, wherein at least one of the two parallel plates and/or sheets are within the same compositional window as the corrugated aluminium stiffener.
- 5 9. A composite aluminium panel in accordance with claim 6 or 8, wherein a cladding of the AA4000-series aluminium alloy is present on at least one side of the surface of the corrugated aluminium stiffener sheet, and wherein at least one of the two parallel plates and/or sheets has been secured to the corrugated aluminium stiffener sheet by means of brazing.
- 10 10. Use of an aluminium rolled product of composition (in weight percent):
- | | |
|----------------------------|-----------------------------|
| Mg | 1.5 - 6.0 |
| Mn | 0.3 - 1.4 |
| Zn | 0.4 - 5.0 |
| Fe | up to 0.5 |
| Si | up to 0.5 |
| Zr | up to 0.30 |
| optionally, one or more of | Cr 0.05 - 0.30 |
| | Ti 0.01 - 0.20 |
| | V 0.05 - 0.25 |
| | Ag 0.05 - 0.40 |
| | Cu up to 0.40 |
| others | up to 0.05 each, 0.15 total |
| Al | balance |
- 25 as corrugated aluminium stiffener sheet and/or as parallel sheet or plate in a composite aluminium panel in accordance with any one of claims 1 to 9.
11. Use of an aluminium rolled product of composition (in weight percent):
- | | |
|----|-------------------------------------|
| Mg | 5.0 - 6.0 |
| Mn | 0.6 - 1.2 |
| Zn | 0.4 - 1.5, and preferably 0.4 - 0.9 |
- 30

Sub
A200
C000
F000
G000
H000
I000
J000
K000
L000
M000
N000
O000
P000
Q000
R000
S000
T000
U000
V000
W000
X000
Y000
Z000

Zr 0.05 - 0.25

Cr up to 0.3

Ti up to 0.2

Fe up to 0.5

Si up to 0.5%

Cu up to 0.4

Ag up to 0.4

balance Aluminium and inevitable impurities.

as corrugated aluminium stiffener sheet and/or as parallel sheet or plate in a composite aluminium panel in accordance with any one of claims 1 to 9.

12. A welded structure comprising at least one composite aluminium panel according to any one of claims 1 to 9.
13. A composite aluminium panel according to any one of claims 1 to 9 for ship building.
14. A composite aluminium panel according to any one of claims 1 to 9 for marine offshore construction.

The figure consists of 12 sub-diagrams labeled (a) through (l), arranged vertically. Each diagram shows a different stage of a 3D model's construction. (a) shows a basic wireframe of a head and neck. (b) through (l) show the model becoming more detailed, with the addition of facial features like eyes, nose, mouth, and ears, as well as hair and a more defined neck. Labels such as 'HEAD', 'NECK', 'FACE', 'HAIR', and 'EYES' are placed next to the corresponding parts of the model in various diagrams to identify them.

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